REMARKS

Upon entry of the present amendment claims 1 and 3-25 are pending in the application. Claims 1 and 3-16 have been amended in accordance with the requirements of U.S. patent practice. New claims 17-25 add no new matter, as these claims contain subject matter deleted from the amended claims. Applicants respectfully request entry of the preliminary amendment.

Respectfully Submitted,

Michael F. Morgan
Registration No. 42,906
Customer No. 26922

Date: July 24, 2001
BASF Corporation
26701 Telegraph Road
Southfield, Michigan 48034-2442
(248)-948-2355

11.01.2000
09/890019
JC17 Rec'd PCT/PTO 25 JUL 2001

Binder mixtures and their use in coating materials curable thermally and/or with actinic radiation

The present invention relates to novel binder mixtures and to their use in coating materials or as coating materials which are curable thermally and/or with actinic radiation. The present invention further relates to the novel coating materials which comprise or consist of the novel binder mixtures, and to their use for automotive OEM finishing, automotive refinish, industrial coating, including coil coating and container coating, the coating of plastics, and furniture coating. The invention further relates to a novel process for coating substrates which uses the novel coating materials, and also to the substrates thus coated.

Coating materials curable with actinic radiation, especially with UV radiation, and in liquid form or in the form of powder coating materials are increasingly gaining significance for reasons of reduced solvent use and are increasingly being put to new end uses. A principal problem with the known UV-curable coating materials, however, is the surface inhibition of curing by atmospheric oxygen. This inhibition must be compensated by using UV lamps with a high energy density and by accelerating the cure using amine coinitiators. These amines, however, frequently lead to

instances of odor nuisance, and may result in unwanted discoloration of the coatings.

In the case of UV powder coating materials, further problems arise from the contradictory requirements for good blocking resistance of the powders on storage and good leveling of the melted coating film. For good blocking resistance, the glass transition temperature and melting point should be as high as possible; for good leveling and for use on heat-sensitive substrates, however, they should be as low as possible, in order to prevent a curing reaction before an optimum surface smoothness has developed, and in order to prevent damage to the substrate. For improving the surface smoothness, moreover, the melt should also have a low viscosity, and the reaction should set in only after a delay. However, such a profile of properties is difficult to realize with powder coating materials curable by means of heat alone, whose curing is - as is known - based on a thermally activated reaction between binder and crosslinking agent, e.g., between a polyepoxy resin and a dicarboxylic acid, since simultaneous with the melting process there is a viscosity-raising crosslinking reaction. In the case of powder coating materials curable with actinic radiation, on the other hand, it ought to be possible